AMENDMENTS

Please amend the application as indicated hereafter.

In the Claims

Please substitute the following clean copy text for the pending claims of the same number.

1. (Thrice Amended) A method for forming an ohmic contact on a semiconductor layer comprising:

(a) depositing a reactive layer comprising at least one electrically conductive material on at least a portion of a compound semiconductor layer, wherein the at least one electrically conductive material is chosen from nickel, ruthenium, vanadium, gold, and cobalt; and

(b) depositing a refractory layer comprising electrically conductive material on the reactive layer, wherein said refractory layer is substantially free of gold, and

wherein additional layers of conductive metal are not deposited on the refractory layer in the forming of the ohmic contact.

12. (Once Amended) The method according to claim 1 wherein said step of depositing a refractory layer on the reactive layer comprises depositing a refractory layer comprising material selected from the group consisting of: titanium, molybdenum, tungsten, TiW, metal nitrides, metal silicides and metal borides.

14. (Once Amended) The method according to claim 1 wherein said step of depositing a reactive layer comprises depositing a reactive layer having a thickness in the range of from about 10 to about 500 angstroms.

15. (Once Amended) The method according to claim 1 wherein said step of depositing a reactive layer comprises depositing a reactive layer having a thickness in the range of from about 20 to about 100 angstroms.

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21. (Thrice Amended) An ohmic contact to a compound semiconductor layer comprising:

(a) a reactive layer comprising at least one electrically conductive material, wherein the at least one electrically conductive material is chosen from nickel, ruthenium, vanadium, gold, and cobalt, and

(b) a refractory layer, wherein said refractory layer is substantially free of gold, and

wherein additional layers of conductive metal on the refractory layer are not necessary in the ohmic contact.

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27. (Once Amended) The ohmic contact according to claim 21 wherein said refractory layer comprises a material selected from the group consisting of: titanium, molybdenum, tungsten, TiW, metal nitrides, metal silicides and metal borides.

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29. (Once Amended) The ohmic contact according to claim 1 wherein said reactive layer has a thickness in the range of from about 10 to about 500 angstroms.

30. (Once Amended) The ohmic contact according to claim 1 wherein said reactive layer has a thickness in the range of from about 20 to about 100 angstroms.

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32. (Once Amended) The ohmic contact according to claim 21 wherein said refractory layer has a thickness of about 100 angstroms.

D8

34. (Thrice Amended) An ohmic contact to a compound semiconductor layer comprising:

(a) a reactive layer, said reactive layer is nickel; and

(b) a refractory layer, said refractory layer is titanium,

wherein said refractory layer is substantially free of gold, and

wherein additional layers of conductive metal on the refractory layer are not necessary in the ohmic contact.

36. (Thrice Amended) A method for forming an ohmic contact on a compound semiconductor layer of a semiconductor device comprising:

(a) depositing a reactive layer on at least a portion of a compound semiconductor layer of a semiconductor device, wherein the reactive layer is nickel and an adhesive element;

(b) depositing a refractory layer on said reactive layer, said refractory layer is titanium, wherein said refractory layer is substantially free of gold, and

wherein additional layers of conductive metal are not deposited on the refractory layer in the forming of the ohmic contact.

43. (Once Amended) An ohmic contact to a compound semiconductor layer of a semiconductor device made by a method comprising:

(a) depositing a reactive layer comprising at least one electrically conductive material on at least a portion of a compound semiconductor layer, wherein the at least one electrically conductive material is chosen from nickel, ruthenium, vanadium, gold, and cobalt; and

(b) depositing a refractory layer comprising electrically conductive material on the reactive layer, wherein said refractory layer is substantially free of gold, and

wherein additional layers of conductive metal are not deposited on the refractory layer in the forming of the ohmic contact.

44. (Once Amended) An ohmic contact to a compound semiconductor layer of a semiconductor device made by a method comprising:

(a) depositing a reactive layer on at least a portion of a compound semiconductor layer of a semiconductor device, wherein the reactive layer is nickel and an adhesive element;

(b) depositing a refractory layer on said reactive layer, said refractory layer is titanium, wherein said refractory layer is substantially free of gold, and

wherein additional layers of conductive metal are not deposited on the refractory layer in the forming of the ohmic contact.

45. (Once Amended) The ohmic contact of claim 21, wherein the ohmic contact can be used in at least one of a laser diode, a light emitting diode, a Schottky diode, a field effect transistor, a metal-semiconductor field effect transistor, a metal-oxide-semiconductor field effect transistor, and a high electron mobility transistor.

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46. (Once Amended) The ohmic contact of claim 34, wherein the ohmic contact can be used in at least one of a laser diode, a light emitting diode, a Schottky diode, a field effect transistor, a metal-semiconductor field effect transistor, a metal-oxide-semiconductor field effect transistor, and a high electron mobility transistor.

47. (Once Amended) The ohmic contact of claim 43, wherein the semiconductor device comprises a laser diode, a light emitting diode, a Schottky diode, a field effect transistor, a metal-semiconductor field effect transistor, a metal-oxide-semiconductor field effect transistor, or a high electron mobility transistor.

48. (Once Amended) The ohmic contact of claim 44, wherein the semiconductor device comprises a laser diode, a light emitting diode, a Schottky diode, a field effect transistor, a metal-semiconductor field effect transistor, a metal-oxide-semiconductor field effect transistor, or a high electron mobility transistor.

65. (Once Amended) The method of claim 1, wherein the compound semiconductor layer is N+ InGaAs.

D12

66. (Once Amended) The method of claim 21, wherein the compound semiconductor layer is N+ InGaAs.

67. (Once Amended) The method of claim 34, wherein the compound semiconductor layer is N+ InGaAs.

D12 Cont. 68. (Once Amended) The method of claim 36, wherein the compound semiconductor layer is N+ InGaAs.